

2009-01-28 [20010-06USA] Sequence Listing_ST25
SEQUENCE LISTING

<110> POSCO
POSTECH Foundation
CHA, Hyung Joon
HWANG, Dong Soo

<120> Mussel Bioadhesive

<130> 20010-06USA

<140> 10/599,313
<141> 2006-08-25

<150> US 60/556,805
<151> 2004-03-26

<150> PCT/KR2005/000888
<151> 2005-03-25

<160> 35

<170> PatentIn version 3.5

<210> 1
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<220>
<223> primer

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<223> primer

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gtatgtatcat acgccccacc agtgaacag 29

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<220>
<223> primer

<400> 3
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<210> 4
<211> 21
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2009-01-28 [20010-06USA] Sequence Listing_ST25
<213> Artificial Sequence

<220>
<223> primer

<400> 4
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21

<210> 5
<211> 228
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus galloprovincialis

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ggttagttatc acggatccgg ctatcatgga ggatataagg gaaagtatta cgaaaggca
aagaataact attataaata taaaacagc ggaaaataaca agtatctgaa gaaagctaga
aaataccata gaaagggtta caagaagtat tatggaggtg gttagcagt 60
120
180
228

<210> 6
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mytilus galloprovincialis

<400> 6

Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Thr Tyr His
1 5 10 15

Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr
20 25 30

Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
35 40 45

Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
50 55 60

Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser
65 70 75

<210> 7
<211> 180
<212> DNA
<213> Artificial Sequence

<220>

2009-01-28 [20010-06USA] Sequence Listing_ST25
<223> mytilus edulis

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gctaaaccta gctatccacc tacgtacaaa gctaaaccgt cttacccgcc gacttacaaa 120
gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttacccccc gacttacaaa 180

<210> 8
<211> 60
<212> PRT
<213> Artificial Sequence

<220>

<223> mytilus edulis

<400> 8

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

<210> 9
<211> 411
<212> DNA
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-150)

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gctaaaccta gctatccacc tacgtacaaa gctaaaccgt cttacccgcc gacttacaaa 120
gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttacccccc gacttacaaa 180
agtttgaag aatacaaggg tggatttac ccaggcaatt cgaaccacta tcattcaggt 240
ggtagttatc acggatccgg ctaccatgg aataataagg gaaagtattt cggaaaggca 300
aagaataact attataaata taaaacagc gaaaaataca agtatctaaa gaaagctaga 360
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<210> 10
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2009-01-28 [20010-06USA] Sequence Listing_ST25
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-150)

<400> 10

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe
130 135

<210> 11

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Bioadhesive protein(mgfp-051)

<400> 11

agtcttgaag aatacaaggg tggttattac ccaggcaatt cgaaccacta tcattcagggt 60

ggtagttatc acggatccgg ctaccatgga ggtatataagg gaaagtatta cgaaaaggca 120

aagaataact attataaata taaaacacgc ggtatataaca agtatctaaa gaaagctaga 180

aaataccata gaaagggtta caagaagtat tatggaggttgcactgtaa cgcctaaaccg 240

tcttacccgc cgacacctaa agcaaaaccc tctgtacccac cgacttataa ggcttaaacct 300

agctatccac ctacgtacaa agctaaacccg tcttacccgc cgacttacaa agcaaaacccg 360

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411

<210> 12
<211> 137
<212> PRT
<213> Artificial Sequence

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<400> 12

Ser	Ser	Glu	Glu	Tyr	Lys	Gly	Gly	Tyr	Tyr	Pro	Gly	Asn	Ser	Asn	His
1					5				10					15	

Tyr	His	Ser	Gly	Gly	Ser	Tyr	His	Gly	Ser	Gly	Tyr	His	Gly	Gly	Tyr
					20			25				30			

Lys	Gly	Lys	Tyr	Tyr	Gly	Lys	Ala	Lys	Lys	Tyr	Tyr	Tyr	Lys	Tyr	Lys
35					40					45					

Asn	Ser	Gly	Lys	Tyr	Lys	Tyr	Leu	Lys	Lys	Ala	Arg	Lys	Tyr	His	Arg
50					55					60					

Lys	Gly	Tyr	Lys	Lys	Tyr	Tyr	Gly	Gly	Ser	Ser	Glu	Phe	Ala	Lys	Pro
65					70				75				80		

Ser	Tyr	Pro	Pro	Thr	Tyr	Lys	Ala	Lys	Pro	Ser	Tyr	Pro	Pro	Thr	Tyr
					85				90				95		

Lys	Ala	Lys	Pro	Ser	Tyr	Pro	Pro	Thr	Tyr	Lys	Ala	Lys	Pro	Ser	Tyr
					100			105			110				

Pro	Pro	Thr	Tyr	Lys	Ala	Lys	Pro	Ser	Tyr	Pro	Pro	Thr	Tyr	Lys	Ala
					115			120			125				

Lys	Pro	Ser	Tyr	Pro	Pro	Thr	Tyr	Lys
					130			135

<210> 13
<211> 591
<212> DNA
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mgfp-151)

<400> 13
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gctaaacccct a gctatccacc tacgtacaaa gctaaacccgt cttacccgcc gacttacaaa

60

120

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gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttacccccc gacttacaaa 180
agtcttgaag aatacagaagg tggttattac ccaggcaatt cgaaccacta tcattcgagt 240
ggtagttatc acggatccgg ctaccatgg aggataaagg gaaagtatta cgaaaaaggca 300
aagaatatact attataaata taaaaacgc ggaaaataca agtatctaaa gaaagctaga 360
aaataccata gaaagggtta caagaagtat tatggaggtt gcagtgaatt cgctaaaccg 420
tccttacccgc cgacctacaa agccaaaccc tcgttacccac cgacttataa ggctaaaccct 480
agctatccac ctacgtacaa agctaaaccg tccttacccgc cgacttacaa agccaaaccg 540
tccttacccctc cgacctataa ggctaaaccg agttacccccc cgacttacaa a 591

<210> 14
<211> 197
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive protein(mafn-151)

1400 14

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
130 135 140

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Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
145 150 155 160

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
165 170 175

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
180 185 190

Pro Pro Thr Tyr Lys
195

<210> 15

<211> 339

<212> DNA

<213> Artificial Sequence

<220>

<223> construct for expression of Bioadhesive protein(mgfp-5) in pMDG05
vector

<400> 15

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atgggtcgcga ctctgtacga cgatgacgat aaggatcgat gggatccga gctcgagatc 120

tgcagcagtt ctgaagaata caagggtgtt tattaccagg ccaattcga ccactatcat 180

tcaggttgtt gtatcacgg atccggctac catggaggat ataaggaaa gtattacgga 240

aaggcaaga aatactatta taatataaa aacgcggaa aatacaagta tctaaagaaa 300

gctagaaaat accatagaaa gggttacaag aagtattat 339

<210> 16

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Bioadhesive recombinant protein expressed in pMDG05 vector

<400> 16

Met Gly Gly Ser His His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

2009-01-28 [20010-06USA] Sequence Listing_ST25

Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr
100 105 110

Tyr Gly Gly Ser Ser
115

<210> 17

<211> 435

<212> DNA

<213> Artificial Sequence

<220>

<223> construct for expression of Bioadhesive protein(mgfp-150) in
pMDG150 vector

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ccgacctata aagcaaaaacc ctcgtaccca ccgacttata aggcctaaacc tagctatcca 120
cctacgtaca aagctaaacc gtcttacccg ccgacttaca aagcaaaaacc gtcttaccc 180
ccgacctata aggctaaacc gagttacccc ccgacttaca aaggctgcag ttctgaagaa 240
tacaagggtg gtattaccc aggcaattcg aaccactatc attcaggtgg tagttatcac 300
ggatccggct accatggagg atataaggga aagtattacg gaaaggccaa gaaatactat 360
tataaatata aaaacagcgg aaaatacaag tatctaaaga aagctagaaa ataccataga 420
aagggttaca agaag 435

<210> 18

<211> 151

<212> PRT

<213> Artificial Sequence

<220>

<223> Bioadhesive recombinant protein expressed in pMDG150 vector

<400> 18

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys
1 5 10 15

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
20 25 30

2009-01-28 [20010-06USA] Sequence Listing_ST25
Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser
35 40 45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu
65 70 75 80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
100 105 110

Tyr Gly Lys Ala Lys Lys Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
130 135 140

Lys Tyr Tyr Gly Gly Ser Ser
145 150

<210> 19
<211> 531
<212> DNA
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-051) in
pMDG051 vector

<400> 19
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atgggtcgg a cttctgtacga cgatgacgat aaggatcgat ggggatccga gctcgagatc 120
tgcagcagg t ctgaagaata caagggttgtt tattaccagg gcaattcgaa ccactatcat 180
tcagggttgtt gtattcacgg atccggctac catggaggat ataaggaaa gtattacggaa 240
aaggcaaga aatactattta taatataaa aacacgccc aataacaagta tctaaagaaa 300
gcttagaaaat accatagaaa gggttacaag aagtattatg gaggttagcag tgaattcgct 360
aaaccgtctt accccgccc ac ctacaaagca aaaccctcgat accccaccgac ttataaggct 420
aaaccttagctt atccccccgac ctacaaagca aaaccctcgat accccaccgac ttacaaagca 480
aaaccgtctt accccgccc ac ctataaggctt aaaccgtctt accccaccgac ttacaaagca 531

<210> 20
<211> 179

2009-01-28 [20010-06USA] Sequence Listing_ST25

<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive recombinant protein expressed in pMDG051 vector
<400> 20

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr
100 105 110

Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
115 120 125

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
130 135 140

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala
145 150 155 160

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro
165 170 175

Thr Tyr Lys

<210> 21
<211> 639
<212> DNA
<213> Artificial Sequence

<220>
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2009-01-28 [20010-06USA] Sequence Listing_ST25
pMDG151 vector

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cctacgtaca aagctaaacc gtcttaccgg ccgacttaca aagcaaaacc gtccctaccct 120
ccgacctata aggtctaaacc gagttacccc ccgacttaca aaggctgcag ttctgaagaa 180
tacaagggtt gttattaccc aggtcaattcg aaccactatc attcagggtgg tagttatcac 240
ggatccggct accatggagg atataaggga aagtattacg gaaaggccaa gaaatactat 300
tataaatata aaaacagcgg aaaatacaag tatctaaaga aagctagaaa ataccataga 360
aagggttaca agaagtatta tgaggtagc agtgaattcg ctaaacgcgc ttacccgccc 420
acctacaaag caaaaccctc gtaccgcaccc accttataagg ctaaacctag ctatccacct 480
acgtacaaag ctaaacgcgc ttacccgccc acttacaaag caaaaccgc tcaccctccg 540
acctataagg ctaaacgcag ttacccccc acttacaaa 600
639

<210> 22
<211> 213
<212> PRT
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-151) in
pMDG151 vector

<400> 22

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys
1 5 10 15

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
20 25 30

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser
35 40 45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu
65 70 75 80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
100 105 110

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
130 135 140

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
145 150 155 160

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
165 170 175

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
180 185 190

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
195 200 205

Pro Pro Thr Tyr Lys
210

<210> 23

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 23

ggtaccgaa ttcaattcg ctaaaccg

28

<210> 24

<211> 30

<212> DNA

<213> Artificial Sequence

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<223> primer

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ggtcgactca agcttatcat ttgttaagtcg

30

<210> 25

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> mytilus edulis

<400> 25

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Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
1 5 10

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 26
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<210> 27
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 27
gcaaaaccct cgtacccacc gacttataag

30

<210> 28
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 28
gcttaaaccta gctatccacc tacgtacaaa

30

<210> 29
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 29
gctaaaccgt cttacccgcc gacttacaaa

30

<210> 30
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 30
gcaaaaccgt cctaccctcc gacctataag

30

<210> 31
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Mytilus edulis

<400> 31
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<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 32
aattaaccct cactaaaggg 20

<210> 33
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 33
gtataatcgac tcactatagg gc 22

<210> 34
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 34
cctaacaatat gggggttctc atcatc 26

<210> 35
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 35
atccgccaa aa acagccaagc tt 22